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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,851	07/27/2001	Ping-Wei Chang	SJ0000022US1	9221
7590	03/17/2004			
KONRAD RAYNES & VICTOR LLP Suite 210 315 South Beverly Drive Beverly Hills, CA 90212			EXAMINER KLIMOWICZ, WILLIAM JOSEPH	
			ART UNIT 2652	PAPER NUMBER 12

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,851

Applicant(s)

CHANG ET AL.

Examiner

William J. Klimowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 16, 28 and 58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14, 15, 17-21, 24-27, 29-31, 55-57 and 59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims Status

Claims 1-8, 14-21, 24-31 and 5-59 are currently pending.

Claims 9-13, 22, 23 and 32-54 have been voluntarily cancelled by the Applicants.

Claims 16, 28 and 58 remain withdrawn as being directed to a non-elected invention (see Applicants' election in Paper No.8, filed July 17, 2003 and Examiner's response in Paper No. 9, mailed August 7, 2003.

This application contains claims 16, 28 and 58 drawn to an invention nonelected with traverse in Paper No. 8. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

The newly submitted drawing (Figure 5d) filed with Applicants' response (Paper No. 11, Amendment B) on February 9, 2004 has been accepted by the Examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 14, 15, 17-21, 24-27, 29-31, 55-57 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khlif (US 6,441,385 B1) in view of Khilf et al. (US 6,548,009 B1).

As per claims 1, 14, 27 and 55, Khlif (US 6,441,385 B1) discloses a method for adjusting the curvature (including twist) of an air bearing surface (12) of a slider (10), the slider (10) including a leading edge (14), a trailing edge (16) opposite the leading edge (14), and a back surface (22) opposite the air bearing surface (12), the back surface (22) including a substantially rectangular shape (FIG. 5, 6) having four corner areas (128A, 128B, 128C, 128D) including first (e.g., 128A) (upper right corner region) and second (e.g., 128B) (upper left corner region) corner areas adjacent to the trailing edge (16) and third (e.g., 128C) (lower left corner region) and fourth (e.g., 128D) (lower right corner region) corner areas adjacent to the leading edge (14), wherein the first (128A) and third (128C) corner areas are diagonally opposite to one another and the second (128B) and fourth (128D) corner areas are diagonally opposite to one another, the method comprising: scribing at least one line (126) in one of the first or second corner areas; and scribing at least one line (127) in one of the third or fourth corner areas; wherein the scribe lines are made in diagonally opposite corner areas (e.g., FIG. 4).

As per claims 2 and 17, wherein the scribe lines (126, 127) in each of the diagonally opposite corner areas are substantially parallel to one another and to the leading edge (14).

As per claim 3, a plurality of scribe lines (126, 127) are made in one set of opposite corner areas selected from the group consisting of the first and third corner areas and the second and fourth corner areas (FIGS. 4, 5).

As per claims 4 and 19, wherein the scribe lines (126, 127) are made using a laser (120).

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As per claims 5, 20, 29 and 31, the scribe lines (126, 127) are made using a system selected from the group consisting of pulsed laser, a continuous laser, and a diamond scribe (e.g., see, *inter alia*, COL. 26, lines 19-21).

As per claims 6, 21 and 30, the scribe lines (126, 127) are made using a method that modifies the surface stress of the slider (10).

As per claim 7, wherein at least one of said scribe lines is made up of a plurality of dots extending along a line (due to an embodiment wherein the laser is pulsed - see, *inter alia*, COL. 26, lines 19-21).

As per claim 8, the scribe lines (126, 127) are formed to extend in a path selected from the group consisting of a straight path and a curved path - FIG. 4.

As per claims 15, 56, 57 and 59, the plurality of scribes (126, 127) are formed in the upper right corner region and the lower left corner region and the twist is increased (e.g., see, *inter alia*, COL. 7, lines 38-44; COL. 7, lines 45-63, etc.) - e.g., positive twist. Note that the regions can be alternatively considered, wherein including wherein the first can be considered (128B) (upper right corner region) and second (128A) (upper left corner region) corner areas adjacent to the trailing edge (16) and third (128D) (lower left corner region) and fourth (128C) (lower right corner region) corner areas adjacent to the leading edge (14), as per claims 57 and 59.

Additionally, as per claim 27, the back surface an upper middle region (between 128A, 128B), a lower middle region (between 128C and 128D), the back surface (22) also including a center right region (e.g., between 128A and 128D), a center middle region (along a diagonal between 128A and 128C), and a center left region (e.g., between 128B and 128C).

Additionally, as per claim 55, the method comprising: forming a first group scribes (e.g., 126) of scribes in one of (i) the upper right corner region and the lower left corner region; or (ii) the upper left corner region and the lower right corner region; measuring a twist value after forming the first group of scribes (e.g., 126) ; and forming a second group of scribes (e.g. 127) in one of (i) the upper right corner region and the lower left corner region; or (ii) the upper left corner region and the lower right corner region (e.g., see, *inter alia*, FIGS. 4-6, 15-25; COL. 7, lines 55-63; COL. 8, lines 44-67; COL. 13, 55-61, etc.).

With regard to claims 1, 14, 27 and 55, although Khlif (US 6,441,385 B1) does not expressly disclose wherein the scribe lines are formed substantially perpendicular to the leading edge of the slider, Official notice is taken that such methods of forming scribes as set forth in claims 1, 14, 27 and 55 are notoriously old and well known in the art.

As just an example, Khilf et al. (US 6,548,009 B1) discloses an analogous slide having scribe marks oriented such that they are perpendicular to the leading edges of the slider. See FIG. 9 of Khilf et al. (US 6,548,009 B1).

Given the teaching of Khilf et al. (US 6,548,009 B1), in conjunction with the teachings and suggestions of Khlif (US 6,441,385 B1) as a whole (e.g. altering slider curvature based on scribes located in specified regions on a slider backside), it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 1, 14, 27 and 55, including the perpendicular-to-leading edge scribes, in the manner suggested by Khilf et al. (US 6,548,009 B1).

The rationale is as follows: one of ordinary skill in the art would have been motivated to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 1, 14, 27 and 55, including the perpendicular-to-leading edge scribes, in the manner suggested by Khilf et al. (US 6,548,009 B1) since each slider can be optimized to provide a desired flying effect based on the location and position of the slider scribes which affects its curvature/twist, in the manner taught and suggested by Khilf et al. (US 6,548,009 B1) (e.g. see COL. 10, lines 31-44) which exemplifies what has been established previously in the prior art, and which has been shown as being well known by this instant demonstration.

Additionally, as per claims 18 and 24-26, Khlif (US 6,441,385 B1) remains silent as to the specific relationships set forth in the aforementioned claims.

Given the teachings and suggestions of Khlif (US 6,441,385 B1), however, for modifying the twist and/or crown and/or camber of the slider utilizing scribes at at least diagonal positions on the slider reverse side corners, one of ordinary skill in the art would have routinely experimented to arrive at a desired slider twist, crown and camber by providing the range/dimensions set forth in the aforementioned claims to thereby obtain various standard optimized relationships for an individual slider.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 18 and 24-26.

The rationale is as follows: one of ordinary skill in the art would have been motivated to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 18 and 24-26 since each slider can be optimized to provide a desired flying effect

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based on its curvature/twist, and claims 18 and 24-26 are considered to be range optimizations, based on the teachings and suggestions of Khlif (US 6,441,385 B1) as a whole.

Moreover, absent a showing of criticality (i.e., unobvious or unexpected results), the relationships set forth in the aforementioned claims are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which when the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the Applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions. See *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Response to Arguments

Applicants' arguments filed February 9, 2004 (Paper No. 11) have been fully considered but they are not persuasive.

The Applicants allege that Khlif (US 6,441,385 B1) fails to disclose the limitations set forth in the amended claims 1, 14, 27 and 5; i.e., scribe lines formed perpendicular to the slider

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leading edge. Thus, the Applicants have challenged the Examiner's prior use of "Official notice," previously set forth in Paper No. 9.

The Examiner maintains that with regard to amended claims 1, 14, 27 and 55, although Khlif (US 6,441,385 B1) does not expressly disclose wherein the scribe lines are formed substantially perpendicular to the leading edge of the slider, Official notice previously taken in the prior Office action, is such that methods of forming scribes as set forth in claims 1, 14, 27 and 55 are notoriously old and well known in the art.

As just an example, Khilf et al. (US 6,548,009 B1) discloses an analogous slide having scribe marks oriented such that they are perpendicular to the leading edges of the slider. See FIG. 9 of Khilf et al. (US 6,548,009 B1).

Thus, given the teaching of Khilf et al. (US 6,548,009 B1), in conjunction with the teachings and suggestions of Khlif (US 6,441,385 B1) as a whole (e.g. altering slider curvature based on scribes located in specified regions on a slider backside), it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 1, 14, 27 and 55, including the perpendicular-to-leading edge scribes, in the manner suggested by Khilf et al. (US 6,548,009 B1) since each slider can be optimized to provide a desired flying effect based on the location and position of the slider scribes which affects its curvature/twist, in the manner taught and suggested by Khilf et al. (US 6,548,009 B1) (e.g. see COL. 10, lines 31-44) which exemplifies what has been established previously in the prior art, and which has been shown as being well known by this instant demonstration.

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The Applicants have seasonably transversed the Examiner's previous Official notice, and the Examiner has satisfied such a traversal by citing the pertinent art supporting the Examiner's previous invocation of such Notice.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

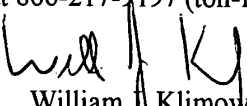
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William J. Klimowicz
Primary Examiner
Art Unit 2652

WJK